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IN REPLY REFER TO:

NSMC-61-dd

11 August 1964

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Dr. Irving Lebow
Chief, Operations Branch
Office of Scientific and Technical Information
P O Box 5700
Bethesda, Maryland 20014

Attn: NASA Representative (RQT-14497)

Dear Dr. Lebow:

I am forwarding to you a copy of the last quarterly report on Project R-24 "Relationship of diurnal cycles of physiological functions and performance....."

We have just begun with our experimental schedule and a report on the results of this study will be forthcoming.

Sincerely yours,

Karl E. Schaefer
Karl E. Schaefer, M.D.
Head, Physiology Branch

Encl

Progress Report
NASA Contract R-24
25 May 1964

I. Chamber facilities

1. The Bethlehem Corporation completed work on the Environmental-pressure-altitude chamber on April 17, 1964.

2. A series of performance tests, under various conditions, have been carried out, and the environmental chamber has been modified for use in the R-24 program.

a. Temperature is controllable within $\pm .1^{\circ}\text{C}$, humidity within $\pm 5\%$, and pressure within ± 7 feet of altitude.

b. A new design for pressure control is being implemented for more completely isolating the chamber environment from barometric weather variation.

c. A programmable illumination controller for the chamber is being constructed.

d. A device for inducing environmental cycles of temperatures, humidity, pressure and illumination, other than those of a 24-hour period, has been designed and is under construction.

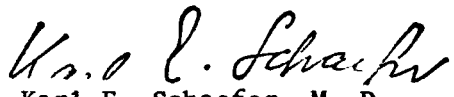
II. Telemetry equipment and data acquisition system

1. The performance of the two seven-channel biotelemetry systems (Biometrics) gear has been evaluated. The two systems are now complete and functional.

2. Fourteen (14) signal conditioning amplifiers (i.e., cardiotelemetry, pneumotachometers, low pass filters), to be used in conjunction with the biotelemetry and A-D conversion equipment, have been designed and are now under construction.

3. The A-D conversion system has been returned to the manufacturer for repair of damage during shipment and should be back at the laboratory during the first week in June.

4. A 12-channel Offner EEG unit (1953) model has been modified and repaired for use as a continuous monitor of the telemetry output.


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